

# Exhibit 9



1                   IN THE UNITED STATES DISTRICT COURT  
2                   FOR THE NORTHERN DISTRICT OF OHIO  
3                   EASTERN DIVISION

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5   IN RE: NATIONAL                   ) MDL No. 2804  
6   PRESCRIPTION OPIATE               )  
7   LITIGATION                         ) Case No.  
8   -----                   ) 1:17-MD-2804  
9                                       )  
10   THIS DOCUMENT RELATES TO         ) Hon. Dan A. Polster  
11   ALL CASES                         )  
12   -----                   )

13                   HIGHLY CONFIDENTIAL  
14                   SUBJECT TO FURTHER CONFIDENTIALITY REVIEW

15                   VIDEOTAPED DEPOSITION OF  
16                   MARGARET KYLE, Ph.D.  
17                   June 5, 2019

18                   Chicago, Illinois

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20  
21  
22                   GOLKOW LITIGATION SERVICES  
23                   877.370.3377 ph | 917.591.5672 fax  
24                   deps@golkow.com

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<p>1</p> <p>2</p> <p>3</p> <p>4 The videotaped deposition of MARGARET KYLE, Ph.D.,</p> <p>5 called by the Plaintiffs for examination, taken</p> <p>6 pursuant to the Federal Rules of Civil Procedure of</p> <p>7 the United States District Courts pertaining to the</p> <p>8 taking of depositions, taken before CORINNE T.</p> <p>9 MARUT, C.S.R. No. 84-1968, Registered Professional</p> <p>10 Reporter and a Certified Shorthand Reporter of the</p> <p>11 State of Illinois, at the offices of Kirkland &amp;</p> <p>12 Ellis LLP, Suite 700, 300 North LaSalle Street,</p> <p>13 Chicago, Illinois, on June 5, 2019, commencing at</p> <p>14 9:13 a m.</p> <p>15</p> <p>16</p> <p>17</p> <p>18</p> <p>19</p> <p>20</p> <p>21</p> <p>22</p> <p>23</p> <p>24</p>	<p>1 APPEARANCES (Continued):</p> <p>2 ON BEHALF OF JOHNSON &amp; JOHNSON and</p> <p>3 JANSSEN PHARMACEUTICALS, INC.:</p> <p>4 O'MELVENY &amp; MYERS LLP</p> <p>5 Two Embarcadero Center, 28th Floor</p> <p>6 San Francisco, California 94111</p> <p>7 415-984-8700</p> <p>8 BY: DANIEL LEIGH, ESQ.</p> <p>9 dleigh@omm.com</p> <p>10 (via telephone and livestream)</p> <p>11 ON BEHALF OF McKESSON CORPORATION:</p> <p>12 COVINGTON &amp; BURLING LLP</p> <p>13 The New York Times Building</p> <p>14 620 Eighth Avenue</p> <p>15 New York, New York 10018-1405</p> <p>16 212-841-1104</p> <p>17 BY: FATMATA S. KABIA, ESQ.</p> <p>18 fkabia@cov.com</p> <p>19 (a.m. session)</p> <p>20 COVINGTON &amp; BURLING LLP</p> <p>21 3000 El Camino Real</p> <p>22 5 Palo Alto Square, 10th Floor</p> <p>23 Palo Alto, California 94306-2112</p> <p>24 650-632-4700</p> <p>BY: MEGAN L. RODGERS, ESQ.</p> <p>mrodgers@cov.com</p> <p>(p.m. session - via</p> <p>telephonic communication)</p>
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<p style="text-align: right;">Page 146</p> <p>1 what's called a first differences model and next by 2 taking logs. 3 So, both of these data transformations 4 are ways that we eliminate the stationarity problem 5 in the data. And then I rerun her analysis, 6 keeping everything else the same except for making 7 these two different data transformations. 8 And when I do that in the first 9 differences model, there is no statistical 10 significance in the regression results between the 11 stock of marketing and sales. So, that's, again, 12 that's a core estimate for her. And the 13 statistical significance falls apart when this 14 correction is made. 15 In the other sensitivity check, so the 16 other transformation using log-logs, the 17 coefficients are statistically significant but the 18 calculation of the impact of Defendant promotion on 19 MMEs drops to less than 3%. 20 So, it's a much smaller estimated effect 21 with making -- after making that change. 22 Q. So, it's statistically significant but 23 in your view it's not practically significant? 24 A. It's certainly much smaller in</p>	<p style="text-align: right;">Page 148</p> <p>1 to deal with stationarity issues. 2 Q. So, you found a statistically 3 significant relationship between Defendant's 4 promotion on the one hand and what on the other? 5 A. Without making any other of the changes 6 to the model that I think are necessary in order to 7 provide some confidence in establishing a causal 8 relationship between detailing and sales, then, 9 yes, that is the result. That's why I have 10 included the table here. 11 But, again, I want to make it very clear 12 that I do not affirm that I think this is a correct 13 estimate either. 14 MS. GEMAN: Move to strike as non-responsive 15 everything after "Yes, that is the result." 16 BY MS. GEMAN: 17 Q. Okay. Any other bases of your opinions 18 in paragraph 23? 19 A. Yes. Another issue in the model that 20 Professor Rosenthal has used is that she has 21 ignored the endogeneity of detailing on sales. 22 Q. So, let me ask you a question about 23 that. 24 There is -- you understand, I think,</p>
<p style="text-align: right;">Page 147</p> <p>1 magnitude. And I also want to make clear that I 2 don't view that as the only problem with this 3 model. 4 So, I'm just pointing out that her 5 estimate is not robust to making these necessary 6 changes to address stationarity, not because I 7 think that these are necessarily valid estimates 8 either. 9 Q. Sorry. But you've -- just so the record 10 is clear, the answer to the question is you agree 11 that the results were indeed statistically 12 significant? 13 A. In the sensitivity analysis where I use 14 a log-log model, the coefficients that result are 15 statistically significant. They imply a much, much 16 smaller percentage of Defendant promotion on MMEs. 17 But, again, I don't want to affirm that 18 these are the correct estimates of the relationship 19 between detailing and sales. 20 Q. But just stated more clearly to sort of 21 fill in what the coefficients are, in your log-log 22 model -- and, by the way, that's a common model, is 23 that correct? 24 A. That's a standard transformation of data</p>	<p style="text-align: right;">Page 149</p> <p>1 that the relationship of promotion to sales is 2 studied all the time? 3 MS. WELCH: Objection to form. 4 BY THE WITNESS: 5 A. You mean in the academic literature, is 6 there a large literature on the relationship 7 between detailing and sales? Yes, I understand 8 that. 9 BY MS. GEMAN: 10 Q. And so describe -- I didn't mean to cut 11 you off. You were saying that the basis for your 12 opinion in paragraph 23 is you believe 13 Dr. Rosenthal's models, I don't know if you mean 14 both her models, but at least one has, in your 15 view, endogeneity bias? 16 A. Yes. The direct model, which relates 17 detailing to sales, has an endogeneity problem. 18 Q. And do you think that what you as 19 Allergan's expert consider the stationarity problem 20 applies to both of Dr. Rosenthal's models? 21 A. No. It applies to the direct model, 22 which relies purely on time series variation. 23 Q. So, to be clear, you are not issuing a 24 criticism that Dr. Rosenthal's indirect model has a</p>

<p style="text-align: right;">Page 150</p> <p>1 stationarity problem?</p> <p>2 A. That's correct. I have not stated in my</p> <p>3 report that there is a stationery problem with the</p> <p>4 indirect model. I have other criticisms of that</p> <p>5 model, but it isn't stationarity.</p> <p>6 Q. Okay. So, going back to endogeneity,</p> <p>7 which model do you think has this problem?</p> <p>8 A. Again, the direct model, because just to</p> <p>9 be clear, the indirect model does not -- is by</p> <p>10 definition indirect. So, there is no detailing in</p> <p>11 the indirect model.</p> <p>12 So, when I refer to the endogeneity of</p> <p>13 detailing and sales, I refer to a specification in</p> <p>14 which detailing appears as an explanatory variable.</p> <p>15 Q. I understand. But that's -- that is, in</p> <p>16 your view, the only source of endogeneity bias,</p> <p>17 correct?</p> <p>18 A. That's the one that -- that I'd like</p> <p>19 to -- in terms of endogeneity of sales and</p> <p>20 detailing, that exists in the direct model.</p> <p>21 Q. Well, hang on. That is the only</p> <p>22 endogeneity issue that you identify in your report.</p> <p>23 Are you now offering new opinions?</p> <p>24 A. So, to be more precise, the indirect</p>	<p style="text-align: right;">Page 152</p> <p>1 A. She doesn't have very many economic</p> <p>2 justifications.</p> <p>3 Q. Okay. But she has them and you disagree</p> <p>4 with them. Is that fair?</p> <p>5 A. So, to the extent that she introduced</p> <p>6 economic justifications for model C, for example,</p> <p>7 so this is where she includes a number of events</p> <p>8 that she explains could influence sales of opioids</p> <p>9 during this time period, even she agrees that the</p> <p>10 results on the coefficients that she obtains from</p> <p>11 including those events don't make a lot of economic</p> <p>12 sense, which again suggests that there are problems</p> <p>13 with the model.</p> <p>14 I don't disagree with her hypotheses</p> <p>15 that, for example, changing the guidelines would</p> <p>16 have an effect on sales. My concern is that she</p> <p>17 doesn't obtain the coefficients that she expects,</p> <p>18 and the rest of the coefficients move around</p> <p>19 sufficiently that it throws the entire model into</p> <p>20 doubt.</p> <p>21 Q. Do you think you're better situated to</p> <p>22 opine on the economic justifications that she</p> <p>23 offers than she is? Do you think you have sort of</p> <p>24 greater knowledge or background?</p>
<p style="text-align: right;">Page 151</p> <p>1 model has an omitted variable problem, which is</p> <p>2 related to endogeneity.</p> <p>3 Q. Okay. We can talk about that.</p> <p>4 So, do you have any other bases for your</p> <p>5 opinions in paragraph 23?</p> <p>6 A. Yes. So, in addition to the endogeneity</p> <p>7 issue, my criticism is that Professor Rosenthal has</p> <p>8 introduced enough flexibility into the direct model</p> <p>9 that it is essentially too flexible. It's capable</p> <p>10 of fitting many time series that move together</p> <p>11 without having any economic justification for that</p> <p>12 relationship.</p> <p>13 And, so, I specifically experimented</p> <p>14 with using her approach to explain sunspots, and I</p> <p>15 could show that using that level of flexibility in</p> <p>16 the direct model also produces what she would -- if</p> <p>17 you take her model seriously, would be a causal</p> <p>18 relationship between detailing and sunspots.</p> <p>19 And that's to illustrates that this is a</p> <p>20 problem. The model is essentially -- has too much</p> <p>21 flexibility to establish this relationship.</p> <p>22 Q. So, you agree with the economic</p> <p>23 justification that she has or you disagree with the</p> <p>24 economic justifications that she has?</p>	<p style="text-align: right;">Page 153</p> <p>1 A. So, again, I don't disagree with her</p> <p>2 ex-ante hypotheses about, for example, the</p> <p>3 different events or the effect of price on sales.</p> <p>4 On that we agree.</p> <p>5 My issue is that her model then</p> <p>6 generates estimates which are inconsistent with</p> <p>7 that economic -- the economic hypotheses that</p> <p>8 underlie them, which for me creates some</p> <p>9 credibility issues with the model. It suggests</p> <p>10 that this isn't the right model.</p> <p>11 Q. What is the right model?</p> <p>12 A. That, I have provided some evidence</p> <p>13 about the relationship between Allergan detailing,</p> <p>14 shipments and mortality elsewhere in the report.</p> <p>15 Frankly, I don't think that using</p> <p>16 aggregate data and the approach taken here has --</p> <p>17 even if I do all of these other fixes, I still</p> <p>18 think we're left with a problem of too little</p> <p>19 information to work with.</p> <p>20 Q. How would you study the effect of</p> <p>21 Allergan, Allergan's detailing of opioids on sales?</p> <p>22 A. So, I did that. I did it very directly</p> <p>23 by trying to relate Allergan detailing at the</p> <p>24 county level to shipments and to mortality.</p>

<p style="text-align: right;">Page 154</p> <p>1 Q. And those were your -- some of those 2 were the sort of merely descriptive statistics, 3 right? 4 A. No, there are regressions as well. This 5 is in Section V.B. 6 Q. Let's just go one at a time. 7 The first -- the first few of those were 8 merely descriptive statistics, correct? 9 A. I show some figures, too, to make the 10 point visually but then I also have regression 11 analyses. 12 Q. Okay. But talking about the figures 13 that you claim make the point. 14 A. Okay. 15 Q. There is no inferential statistics in 16 those, correct? 17 A. No. It's to illustrate a relation -- 18 that there is no obvious relationship apparent in 19 the data, and then I go on to verify that with 20 regression analyses. 21 Q. And would those regression -- you 22 describe -- have you accurately described all the 23 specifications of those -- I believe you did a -- 24 you put a yearly dummy, right, every -- for between</p>	<p style="text-align: right;">Page 156</p> <p>1 if they're worried about it. 2 Q. Does the backup contain all the model 3 specifications that you employed, someone could 4 easily replicate your analysis? 5 A. Someone could easily replicate the 6 analysis, yes. 7 Q. And who chose these particular outputs 8 for Figure 28? Who at Bates White? 9 A. Oh, I chose the outputs. 10 Q. You chose these outputs. And you chose 11 these out of how many? 12 A. So, we had data on detailing for 2009 13 through 2013 I believe. So, it was a question of 14 choosing which year. And we settled on 2010 15 because that was the first full year of Allergan 16 detailing I believe. 17 I think, if I recall correctly, somebody 18 on the team at Bates White generated the figures 19 for every year and they all looked about the same. 20 So, it didn't seem necessary to add to the number 21 of figures here. 22 Q. Okay. Back to paragraph 23. Anything 23 else about the bases for your opinions in paragraph 24 23?</p>
<p style="text-align: right;">Page 155</p> <p>1 2009 and 2012. Maybe you can point me to the page. 2 I think we're talking about the same thing. 3 A. Sure. I'm looking at page 71. 4 Q. Okay. Thank you. 5 Does footnote 224 completely and 6 accurately describe the analysis that you did as 7 in -- underlying the, I guess, graphs or figures 8 that are listed as Figure 28? 9 A. It accurately describes the results from 10 all of the sensitivity analyses that we did. The 11 ones that I specifically list here are some subset 12 of all that were tried. 13 So, just as an example, we tried with 14 zero percent depreciation and a depreciation -- 15 depreciated stock using 5% annual depreciation. 16 It's -- I don't recall exactly how many 17 other specifications we ran with alternative 18 depreciation rates. But since they all pointed in 19 the same direction, I didn't see -- consider it 20 necessary to list every single one here. 21 Q. Are they in your backup? 22 A. Yes. Well, are the regressions 23 themselves in the backup? No. But the data is 24 available for anyone to run such sensitivity checks</p>	<p style="text-align: right;">Page 157</p> <p>1 A. So, I've talked about stationarity. 2 I've talked about endogeneity. I have talked about 3 some of the issues with aggregation. 4 There was also an issue with the price 5 index that Professor Rosenthal used. So, making a 6 correction to her price index also altered the 7 results that one obtains in a way that calls into 8 question the reliability of the model. 9 Q. So, is the -- now, this is leading into 10 another of your criticisms. 11 But you're referring to Dr. Rosenthal's 12 model about the collective marketing, is that 13 correct? 14 A. Her -- her direct model of aggregate 15 detailing and aggregate shipments or aggregate 16 sales. 17 Q. Now, is this criticism or is this basis 18 of your criticism in connection with the price 19 index applicable to both of her models? 20 A. I'm trying to remember now the details 21 of her indirect model. 22 No. It only pertains to the direct 23 model because she does not actually include a 24 measure of price in the indirect model, if I recall</p>



<p style="text-align: right;">Page 158</p> <p>1 correctly, because in the indirect model she's  2 relying on cross-sectional variation across  3 counties and she wouldn't have county-specific  4 prices in order to include there.  5 Q. Okay. Any other bases for paragraph 23?  6 A. Yes. I can go into more details about  7 the issues of having too much flexibility built  8 into the model, but the fact that she allows the  9 model to determine these turning points in sales  10 without any economic justification for those  11 specific turning points is one issue.  12 The way that she's introduced the  13 splines for different effects in different time  14 periods is also not the standard way that an  15 economist would do this.  16 I've mentioned the price index issue.  17 More generally, again, in a model that  18 uses only time series variation, it's very  19 difficult to include lots of other controls, things  20 that would also be changed -- potentially driving  21 sales of opioids, so, things like variation across  22 counties in the extent of prescription drug  23 coverage or -- or all sorts of other  24 characteristics at an even more micro level.</p>	<p style="text-align: right;">Page 160</p> <p>1 variables is physician characteristics, just to  2 take one example.  3 So, there is a large literature  4 explaining that physician characteristics can be  5 more important than detailing in understanding  6 sales, and it's impossible for Professor Rosenthal  7 to include any kind of control for physician  8 characteristics when she aggregates up to this  9 level. That's one example.  10 Q. And just to be clear, I want to make  11 sure that you've listed everything that you claim  12 is a material omitted variable in your report.  13 A. I don't think that I would claim to have  14 listed an exhaustive set of omitted variables.  15 I've identified a number of factors which is --  16 factors identified by the existing literature as  17 well as factors that even the Plaintiffs list as  18 potentially important in understanding opioid  19 sales.  20 Q. So, are you intending to revise and make  21 new opinions about allegedly new omitted variables  22 that you have sort of just come up with?  23 A. Just to be clear, it's not -- I didn't  24 view it as my responsibility to come up with an</p>
<p style="text-align: right;">Page 159</p> <p>1 Q. I mean, all sorts of characteristics at  2 an even more micro level. Are you opining that  3 there are material omitted variables in  4 Dr. Rosenthal's direct model or is your concern  5 about so-called omitted variable bias focused only  6 on the indirect model?  7 A. Well, both. In particular, the direct  8 model. The issue is that she -- that it's not  9 possible to include a lot of other control  10 variables in a dataset that has only time series  11 variation.  12 Q. What I'm -- what I'm asking you is where  13 in this report do you set forth the specific  14 variables that you think are omitted, not just all  15 the variables out there like the color of shirts  16 that people were wearing in the county. I mean,  17 things that matter.  18 A. So, by the way, I'm not the only person  19 to identify those as potential effects. They're  20 also listed by Plaintiff experts as potential -- as  21 potentially important omitted variables in their  22 reports. But let me just identify where.  23 Q. No, but I'm asking you.  24 A. So, one important class of omitted</p>	<p style="text-align: right;">Page 161</p> <p>1 exhaustive list of omitted variables.  2 The presence of any omitted variables  3 that bias the signs of the coefficients and  4 therefore the validity of the results that  5 Professor Rosenthal is providing and which are  6 being used as inputs into the other expert reports,  7 that's enough for me.  8 Q. So, if -- if you have a disagreement  9 about whether an omitted variable is material,  10 you're sort of assuming that your view is correct,  11 that you didn't need to sort -- that you didn't  12 sort of need to go beyond that?  13 A. Well, I couldn't go beyond it using the  14 data that she was using.  15 Again, my criticism is that the model  16 that Professor Rosenthal used here at an aggregate  17 level using only time series variation masks -- it  18 is not possible with such a limited dataset to  19 include the controls and account for these other  20 omitted factors in a way that would fix her model.  21 So, that's -- my criticism is that the  22 model itself is so deeply flawed that it's not even  23 possible to include -- I can't say, oh, she should  24 have put this into that model. It wouldn't be</p>